

WHAT IS CLAIMED IS:

1. A method of manufacturing a semiconductor device by forming a thin film on a substrate, comprises the steps of:

5 (a) washing the substrate with a washing liquid;  
(b) removing the washing liquid from the substrate by blowing a compressed air to the substrate washed; and

10 (c) forming a thin film on the substrate immediately after the step (b), without performing another step.

2. The method device according to claim 1, wherein the step (a), the step (a) comprises the steps of

15 (a-i) washing the substrate with the washing liquid by use of a brush;  
(a-ii) rinsing the brush-washed substrate; and  
(a-iii) washing the rinsed substrate by using ultrasonic waves.

20 3. The method according to claim 1, wherein, in the step (b), the compressed air to be blown to the substrate is heated to a predetermined temperature.

25 4. The method according to claim 1, wherein, in the step (b), the compressed air to be blown to the substrate is ionized.

5. The method according to claim 1, wherein, the step (c) further comprises a step of heating the

substrate to a predetermined temperature before the thin film is formed on the substrate.

6. The method according to claim 1, wherein, the substrate from which the washing liquid has been removed in the step (b) is directly subjected to the step (c) for forming a thin film.

7. The method according to claim 1, wherein, in the step (c), the substrate is washed with an inert gas in the form of plasma before the thin film is formed.

8. An apparatus for manufacturing a semiconductor device having a thin film on a substrate, comprising:

a washing section for washing the substrate with a washing liquid;

a liquid-removing section for removing the washing liquid from the substrate by blowing compressed air to the substrate washed; and

a film-forming section for forming a thin film on the substrate from which the washing liquid has been removed.

9. The apparatus according to claim 8, wherein the washing section comprises a brush washing section, a rinse section, and an ultrasonic washing section, in which the substrate is washed.

10. The apparatus according to claim 8, wherein the liquid-removing section has an air knife which is inclined to the direction perpendicular to a transfer direction of the substrate and the vertical direction

so as to blow compressed air to (the back of the substrate transfer direction.)

11. The apparatus according to claim 10, further comprising a heater for heating compressed air to be supplied to the air knife.

12. The apparatus device according to claim 10, further comprising an ionizing section for ionizing the compressed air to be supplied to the air knife.

13. The apparatus according to claim 8, wherein the liquid-removing section has at least two air knives located above and below substrate to be transferred, inclined to the direction perpendicular to the substrate transfer direction and arranged such that (the closest ends) of adjacent air knives are spaced apart at a predetermined interval in the substrate transfer direction and overlap for a predetermined distance in the direction perpendicular to the substrate transfer direction.

14. The apparatus according to claim 8, wherein the film forming section comprises a film forming chamber for forming a film on the substrate and a load-lock chamber for heating the substrate to a predetermined temperature before the film is formed in the film forming chamber.

15. The apparatus according to claim 8, wherein a first supply pipe for supplying a material gas for forming a film and a second supply pipe for supplying

an inert gas which is ionized, into a plasma before the film is formed, are connected to the film forming chamber.